

II. REMARKS

A. Introductory Remarks

Reconsideration and allowance of this application are earnestly requested. Claims 77-106, 108-111, 118, 130-138, and 140-143 are currently pending in this application. By this response, all pending claims 77-106, 108-111, 118, 130-138, and 140-143 have been amended for clarity and reflect the claims as presented in the response filed on *June 28, 2007*. Amended claims 87 and 103 contain elements of previously cancelled claims 119-129. Claim 139 is cancelled. New dependent claims 141-143 have been added that correspond to the elements of the previously cancelled claims 119-129 of the previously filed response on *June 28, 2007*. No new matter has been added by this response.

In addition, and concurrently herewith, Applicants have submitted the Declaration of Robert J. Small and Zhefei J. Chen Under 37 C.F.R. §1.131, which is discussed below in connection with Applicants' response to the rejections in the Office Action dated April 22, 2008.

B. Rejection of Claims 77-101, 104-106, 108-111, 118, 130-138 and 140 Under 35 U.S.C. §112, first paragraph

Claims 77-101, 104-106, 108-111, 118, 130-138 and 140 are rejected under 35 U.S.C. §112, first paragraph, for lack of enablement for polymethacrylate. *See*, Office Action, on p. 2.

In response, Applicants have deleted this item from the independent claims 77, 94, and 118 and have amended the dependent claims 87, 103 and 141 to recite ammonium polymethacrylate, which is supported by the specification. Accordingly, Applicants respectfully request withdrawal of this rejection.

C. Rejection of Claims 77-93, 118, 130-138 and 140 Under 35 U.S.C. §112, First Paragraph

Claims 77-93, 118, 130-138 and 140 are rejected under 35 U.S.C. 112, first paragraph, for allegedly failing to comply with the written description support requirement. In particular,

claims 77 and 118 were cited as reciting “ammonium” in the selection of suspending agents, which lacked written description in the specification. *See*, Office Action, on p. 3.

In response, Applicants have deleted this recitation from claim 77 and 118. Applicants note that this was a typographical error, which should read ammonium polymethacrylate, which is supported by the specification. Dependent claims 87, 103, and 141 have also been corrected. Accordingly, Applicants respectfully request withdrawal of this rejection.

D. Rejection of Claims 77-101, 104-106, 108-111, 130-138 and 140 Under 35 U.S.C. §112, Second Paragraph

Claims 77-101, 104-106, 108-111, 118, 130-138 and 140 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter. *See*, Office Action, p. 3.

Specifically, claims 77 and 118 were rejected as being indefinite as to the limitation “...silicate ammonium and polyacrylate.” Also, claim 118 was objected to as to the limitation “aluminum oxidé-C”.

With respect to claims 77 and 118, Applicants have deleted the recitation of silicate ammonium and polymethacrylate and amended the dependent claims 87, 103, and 146 to correctly recite ammonium polymethacrylate.

With respect to claims 77, 94 and 118, Applicants have deleted the recitation of aluminum oxide-C. This recitation appears in dependent claim 144, where the trade name has been omitted and substituted with the generic name, aluminum oxide.

E. Rejection of Claims 77-82, 86-101, 104-106, 108-111, 118, 130-136, 138 and 140 Under 35 U.S.C. §103

Claims 77-82, 86-101, 104-106, 108-111, 118, 130-136, 138, and 140 are rejected under 35 USC §103 as obvious over Wang (184) alone or in view of Akahori (434). Applicants traverse this rejection in light of the declaration under 37 C.F.R. §1.131 submitted concurrently herewith.

In traversing this rejection, Applicants have submitted herewith a declaration under 37 C.F.R. §1.131 to antedate Wang (184), thereby removing Wang (184) as a prior art reference against the amended pending claims. The declarations along with the Exhibits 1-20 attached therewith, establish that the inventors had possession of and reduced to practice the claimed invention *prior to August 13, 1999*, which is the effective filing date of Wang (184). Further, the declaration under 37 C.F.R. §1.131 demonstrate that the Applicants exercised reasonable diligence in preparing and filing this application.

As previously submitted in Applicants' response filed on June 28, 2007, following is a summary of the law regarding declarations under 37 C.F.R. §1.131, particularly with respect to how much of the claimed invention must be shown by the evidence supporting the declaration, and a discussion of the concurrently submitted declaration itself as it applies to each of the pending independent claims (77, 94, and 118).

Additionally, Applicants discuss the law regarding "reasonable diligence" as applied to situations where Applicants have reduced to practice their invention prior to the effective filing date of the prior art reference and some time period has lapsed between the date of reduction to the date of filing of the application.

F: Case Law Regarding Declarations Under 37 C.F.R. §1.131 (Submission of lab notebook pages for antedating prior art reference)

With respect to how much of a claimed invention must be shown in a Rule 1.131 declaration, the affidavit or declaration must establish possession of either the whole invention claimed or something falling within the claims in the sense that the claim as a whole reads on it. *See, In re Tanczyn*, 52 C.C.P.A. 1630, 1634, 347 F.2d 830, 833 (1965), (stating that the court did not agree, and would not sanction a broad rule, that a declaration must show the entire claimed invention in all cases except genus-species situations); *see also* MPEP 715.02. In the case of a genus-species situation, an applicant only need show possession of a species within a claimed genus prior to the date of a reference disclosing that species to antedate such reference. *In re Stempel*, 44 C.C.P.A. 820, 826, 241 F.2d 755, 759 (1957).

In an application claiming a process with a range of weight percentages as a claim limitation, a declaration establishing possession of the process, but not the claimed range of weight percentages, was sufficient to antedate a reference. *In re Stryker*, 58 C.C.P.A. 797, 799, 435 F.2d 1340, 1341-42 (1971). In the *Stryker* case, Appellant claimed, in part, an improved process for removing propylene diluent from a suspension consisting essentially of from about 50%-60% by weight polypropylene solids in liquid propylene. *Id.* The Examiner rejected this claim as obvious over a reference that disclosed 35% polypropylene solids. *Id.* at 1341. Appellant had submitted an affidavit to antedate the reference, but, on appeal, the Board considered the affidavit deficient in that, while it alleged conception and reduction to practice of the claimed process (including the weight percentage limitation), there was no corroborating evidence showing those weight percentage limitations. *Id.* On appeal to the Court of Customs and Patent Appeals, the Court reversed the Board and held that:

To hold that Harban [the reference] is not removed by the showing presented would lead to an anomalous result, i.e., if appellant broadened his claims by deleting the weight limitations, so as to read literally on Harban, Harban would not be available as a reference against such broadened claims because appellant's antedating affidavit would be satisfactory in every response. It cannot be the law that the same affidavit is insufficient to remove the same reference applied against the slightly narrower claims presented here. *Id.* at 1341-42.

As shown by the above cases, a declaration under 37 C.F.R. §1.131 need not show possession of the whole invention prior to the reference date but, rather, only needs to show possession of something falling within the claims, such as a species within a claimed genus. *See In re Stempel*, 44 C.C.P.A. at 826; *In re Tanczyn*, 52 C.C.P.A. at 1634. However, it is clear that the genus-species situation is not to be viewed as the only situation in which a Rule 1.131 declaration that establishes possession of only a portion of the claimed invention is sufficient to antedate a reference. *In re Tanczyn*, 52 C.C.P.A. at 1634. Further, in the context of a claimed range, the *Stryker* case based its ruling on avoiding the anomaly of antedating a reference based upon broader claims. *In re Stryker*, 58 C.C.P.A. at 1341-42.

Since the *Stryker* case, the Court of Customs and Patent Appeals has consistently held that “the purpose of filing a 131 affidavit is to overcome the effective date of a reference cited in support of a rejection.” *In re Eickmeyer*, 602 F. 2d 974; 1979 CCPA LEXIS 224, 202 U.S.P.Q. (BNA) 655, (1979). In the *Eickmeyer* case, Appellant claimed, in part, a regenerative process for purifying gaseous mixtures by removing carbon dioxide therefrom, in which process the gaseous mixtures are brought into contact with a solution of about 15 to 40% by weight of potassium salt and maintaining the aqueous solution at an elevated temperature of at least about 56 °C during contact with said gaseous mixture. *Id.* The Examiner rejected this claim under 102 over a “Maryland” reference that disclosed a similar process of removing carbon dioxide from a solution operated at a temperature range of 220 -240 °F, which embraced Applicants claimed temperature range of “at least 56 °C.” *Id.* at 975. Thereafter, Appellant had submitted an affidavit to antedate the filing date of the “Maryland” reference. *Id.* at 976. The Examiner stated that the Rule 131 affidavit may not be utilized to antedate the patent to Maryland as both applicant and Maryland are claiming substantially the same invention. *Id.*

On appeal to the Board, the Board held that the temperature of 56 °C in the specification was merely one temperature at which reaction kinetics was conducted and that it was questionable whether this disclosure would support the limitation of “at least about 56 °C.” *Id.* at 977. On further appeal to the Court of Customs and Patent Appeals, the CCPA reversed the Board and held that “if the 131 affidavit demonstrates that the applicant’s date of invention is earlier than the effective date of the reference, the reference is eliminated as support for the rejection and that the purpose of filing a 131 affidavit is not to demonstrate prior invention *per se*, but merely to antedate the effective date of the reference ...and the ‘conception’ and ‘reduction to practice’ which must be established under the rule need not be the same as what is required in the ‘interference’ sense of those terms.” *Id.*

Thus, in view of the prior case law, Applicants submit that the declaration with supporting evidence in the form of lab notebook pages attesting to the fact that the inventors had conceived and reduced to practice their invention of noble metal polishing using periodic acid prior to **August 13, 1999, the filing date of the Wang reference** is sufficient to antedate this reference as prior art under §103 (a).

G: Case Law Regarding “Reasonable Diligence”

With respect to the issue of “reasonable diligence” for filing a patent application after reduction to practice the case law has consistently been based on equitable principles and public policy as applied to the facts of each case. In most situations where the Applicant has moved reasonably towards disclosure and filing the application after reducing the invention to practice, the Courts have held that a mere delay in filing is not to be taken as evidence of suppression, concealment, or abandonment. For example, the Federal Circuit has held that *a delay of about 17 months between reduction to practice and filing of patent application* does not warrant suppression or concealment, since total conduct of inventor rather than the elapsed time of delay is controlling factor. *Fujikawa v. Wattanasin*, 93 F.3d 1559; 39 USPQ2d 1895 (Fed. Cir. 1996).

In the *Fujikawa* case, Fuzikawa had an effective filing date of August 20, 1987. *Id.* at 1561. On the other hand, Wattanasin delayed approximately 17 months between reduction to practice and filing his patent application on March of 1989. *Id.* Wattanasin had reduced to practice his invention on compounds that inhibit cholesterol biosynthesis during the 1984-1985 period. However, during much of this period thereafter, Wattanasin engaged in significant steps towards perfecting the invention and preparing an application. From October to December 1987, Wattanasin was involved with *in vivo* testing of his compounds. *Id.* at 1567. Following the *in vivo* testing, the patent committee at Sandoz (Wattanasin’s assignee) approved Wattanasin’s invention for filing a patent application, which took to the end of January 1988. *Id.* Over the next several months, until May 1988, the Sandoz patent department engaged in the necessary collection of data from the inventor and others in order to prepare Wattanasin’s patent application. *Id.* Further, the record indicates that by August of 1988, a patent agent was already at work preparing the application, and that work continued through various drafts until Wattanain’s filing date in March of 1989. *Id.* at 1568.

In view of these facts, the Board held that Wattanasin was the *de facto* first inventor and the delay in filing was not sufficient to trigger an inference of suppression or concealment. *Id.* On appeal to the Federal Circuit, the Court affirmed the ruling of the Board and held that because Wattanasin demonstrated that during the 17 month delay period, Wattanasin and his assignee Sandoz, were *moving slowly but inexorably towards disclosure*, this case did not warrant an

inference of suppression or concealment.” *Id.* (Emphasis Supplied). Citing *Young v. Dworkin*, 489 F. 2d 1277, 1285 USPQ (NA) 388, 395 (CCPA 1974), the court further stated that “it is not the time elapsed that is the controlling factor but the total conduct of the first inventor.” *Id.* at 1567.

Similarly, in *Rhinevault v. Pfiester*, 20 C.C.P.A. 1112; 65 F.2d 161 (1933), the Court of Customs and Patent Appeals (CCPA) held that there is no statutory enactment to the effect that the mere *lapse of two years* from reduction to practice to application for patent shall constitute a bar to the patent. *Id.* at 1117. In this case, Rhinevault filed a patent application on wooden block for parquetry flooring on October 1929 after reducing it to practice in the summer of 1927. *Id.* at 1112. There was a period of at least two years between reduction to practice and the filing of a patent application. *Id.* at 1113. During this time, however, Rhinevault disclosed his invention to other co-workers at his company, tested the wooden block on the floor; and finally his assignee (Bruce Company) prepared a patent application for filing. *Id.* Also, during this same time period Pfiester had made a similar invention on wooden blocks, applied for a patent, and received it on March 30, 1928. *Id.* Rhinevault also introduced considerable correspondence into the record to show that for many months Rhinevalut’s company had tried to ascertain who the actual inventors were, which contributed to the delay in filing. *Id.* at 1114. The Board held for Pfiester stating that there was no reasonable explanation for the “long delay” by Rhinevault from the time of reduction to practice to actual filing date. *Id.* at 1112. On further appeal, the Court of Customs and Patent Appeals reversed the Board holding that there is no requirement in law that an inventor must begin commercial production of his invention or file an application for patent within any specified time. *Id.* at 1118. The Court also held that “[A] mere delay in applying for a patent after actual reduction to practice will [not] necessarily subordinate the first inventor’s rights and ...considerations has always been given to the circumstances excusing the delay.” *Id.* at 1112.

Moreover, the Federal Circuit Court in *Paulik v. Rizkalla*, 760 F.2d 1270 (Fed. Cir. 1985) held that a four year delay between actual reduction to practice and filing of a patent application, need not be a fatal forfeiture of the rights of the first inventor. *Id.* In this case, Paulik reduced the invention of a catalytic process for producing alkyldiene to practice in November 1970 and

again in 1971. *Id.* On about November 20, 1970, Paulik submitted a “preliminary Disclosure of Invention” to the Patent Department of his assignee, the Monsanto Company. *Id.* This disclosure had a priority designation of “B”, which Paulik meant that the case would “be taken up in the ordinary course for review and filing.” *Id.* In January or February of 1975 the assignee’s patent solicitor started to work toward the filing of the patent application. *Id.* at 1271. Several drafts of the application were prepared, and additional laboratory experiments were requested and duly carried out by the inventor and the patent application was filed on June 30, 1975. *Id.* Rizkalla, on the other hand, had an effective patent filing date of March 10, 1975 derived from its parent application. *Id.* at 1270. The Board denied Paulik the opportunity to antedate Rizkalla, for the reason that Paulik was not only the first to conceive but he was also the first to reduce to practice. *Id.*

On further appeal to the Federal Circuit, the Court held that the United States patent law embraces the principle that the patent right is granted to the first to invent rather than the first to file a patent application. *Id.* Further, the Circuit Court held that the Board misapplied the rule that the first inventor does not have to show activity following reduction to practice to mean that the first inventor will not be allowed to show such activity. *Id.* (Emphasis supplied). In ruling for Paulik, the Court stated that invention is not a neat process and that the value of early work may not be recognized or, for many reasons, it may not become practically useful, until months or years later. *Id.* at 1272. Further, the court held that “*we do not see that the public interest is served by placing so severe a sanction on failure to file premature patent applications on immature inventions of unknown value...and that Paulik is not prejudiced by the fact that he had reduced the invention to practice some years earlier.*” *Id.* at 1270, 1276. (Emphasis Supplied).

Regarding the issue of attorney diligence, the Federal Circuit Court has held that “reasonable diligence” is established if an attorney worked reasonably hard on the application...and if the attorney has a reasonable backlog of unrelated cases which he takes up in chronological order and carries out expeditiously, that is sufficient. *Bey v. Kollonitsch*, 806 F. 2d 1024, 231 USPQ 967 (Fed. Cir. 1986); see also, MPEP 2138.06. In this case, Bey’s patent application has the effective filing date of July 11, 1977 and Kollonitsch’s patent application has

the effective filing date of June 1, 1977. *Id.* Bey argued that he was entitled to priority because he had prior conception and reasonable diligence in reducing to practice. *Id.* at 1026. Bey's case for diligence hinged on whether his patent attorney, Ruth Hattan had been reasonably diligent in preparing and filing the patent application during the 41-day critical period. *Id.* Bey argued that Hattan's work on the closely related applications contributed substantially to the preparation of the present application. *Id.* Bey's supervisor had chosen one attorney to handle the applications because of the closely related technology and the proximity of the agent's office to the company's location. *Id.*

The Board found that Bey had failed to show diligence because Hattan had not documented sufficient specific activity on the present application and Hattan could not show that the applications were taken up in chronological order. *Id.* at 1027. The Board rejected Bey's argument that work on the related applications should be considered as diligence with respect to the present application. *Id.* On appeal, the Federal Circuit reversed the Board and held that the question of "diligence" is subject to the "rule of reason" as determined in the particular circumstances of each case...and that the Board failed to apply the correct rule of law in determining whether Hattan's work on related applications constituted diligence with respect to the present application. *Id.* at 1027-1028. Finally, the Court held that the *attorney's work on related cases must be credited toward reasonable diligence on the instant application because the work on the related cases "contributed substantially to the ultimate preparation of the involved application."* *Id.* at 1030. (Emphasis supplied).

H: Applicants' Declaration Under 37 C.F.R. §1.131 to Antedate Wang (184)

As Ioted, independent claims 77, 94, and 118 are rejected as allegedly obvious over the primary reference of Wang (184). The Office Action states that Wang (184) teaches a polishing composition for polishing a noble metal and dielectric layer, said composition comprising an abrasive (alumina) and periodates and acids thereof. Office Action, p. 2. Further, the Office Action asserts that Wang (184) teaches amounts for the periodic acid and that said amounts will encompass the claimed amounts. *Id.* at 3.

In response, Applicants request consideration of the concurrently submitted declaration under 37 C.F.R. §1.131. This declaration includes Exhibits (1-10) that evidences the reduction to practice of the invention as claimed in independent claims 77, 94, and 118 prior to August 13, 1999, the effective filing date of the Wang Reference (184). *See, e.g.,* the declaration of Robert J. Small and Zhefei J. Chen under 37 C.F.R. §1.131, paras. 5-29. The declaration has been signed by both of the named inventors, Robert J. Small and Zheifei Chen, and states that the acts relied upon to establish completion of the invention prior to the date of the Wang reference were carried out in the United States, *Id.* at 3. Accordingly, Applicants submit that by this declaration and Exhibits 1-10, Wang (184) has been effectively antedated, thereby making it unavailable as prior art.

Exhibits 1-10 describe several chemical-mechanical polishing compositions that were made and tested on iridium and iridium oxide (noble metals and their oxides) prior to ***August 13, 1999, the effective date of the Wang reference.*** Accordingly, these compositions and tests illustrate possession and reduction to practice of the invention as recited in independent claims 77, 94, and 118. *Id.* at 5-29.

Specifically, regarding independent claim 77, Exhibits 1-6 describes various compositions as polishing slurries for polishing iridium noble metal, wherein the polishing slurries comprise 0.1-0.2 moles/kg of periodic acid and 2% by weight of alumina abrasive and produce polishing rates of 250 to 1116 Å/minute. *Id.* at 8. The pH of each of these compositions was adjusted using ammonium hydroxide as a pH-adjusting agent from 1-12. *Id.* Accordingly, these compositions and tests evidence the reduction to practice of each element of claim 77 (*e.g.,* a substrate comprising a noble metal contacting a chemical mechanical polishing composition comprising periodic acid at a concentration of about 0.05 to about 0.3 moles/kg, an abrasive and several pH ranges to maintain a polishing rate of noble metal removal of 300 to 2000 Å/min prior to the reference date of Wang (184)).

Regarding independent claim 94, Exhibit 7 describes a composition concerning the polishing of a substrate comprising an iridium, a noble metal, having thereon a TEOS (tetraethyl orthosilicate), a dielectric. *Id.* at 23. These compositions comprise approximately 2 weight

percent alumina abrasive and approximately 0.1 mole/kg periodic acid and had a pH of about 9-12. *Id.* Further, these compositions gave a noble metal: TEOS selectivity ratio of from 1:1 to 3.9:1. Accordingly, these compositions and tests evidence the possession and reduction to practice of each element of claim 94 (*e.g.*, a substrate comprising a dielectric and a noble metal contacting a composition comprising periodic acid in an amount from about 0.05 to about 0.3 moles/kg, an abrasive in an amount from about 0.2 to about 6 weight percent, and a pH from above pH 5 to about pH 10, wherein the selectivity of the polishing the noble metal-containing metal to the dielectric material is at least 1:1 prior to the reference date of Wang (184).

Regarding independent claim 118, Exhibit 8 illustrates a composition for polishing a substrate comprising iridium using 2 % wt of alumina abrasive and 0.1 moles/kg of periodic acid at various pH ranging from 7 to 12. Further, this composition illustrates the use of an organic acid as a suspension agent. *Id.* at 24. The pH of each of these compositions was adjusted using ammonium hydroxide as a pH-adjusting agent to values ranging from 1.6 to 3-4 to 6.7-7.3. *Id.* Accordingly, these compositions and tests evidence the possession and reduction to practice of each element of claim 118 (*e.g.*, a substrate comprising a noble metal contacting a composition comprising water, periodic acid in an amount from about 0.05 to about 0.3 moles/kg, an alumina abrasive in an amount from about 0.2 to about 6 weight percent, a pH-adjusting agent to cause the pH to be between about 1 to about 4 or about 5 to about 10, and a suspension agent) prior to the reference date of Wang (184).

Applicants submit that the foregoing clearly evidences possession of the inventions as claimed in independent claims 77, 94, and 118 prior to the reference date of Wang (184), thereby antedating Wang (184) as a prior art reference.

As submitted before in Applicants' response of 6/28/2007 and as acknowledged by the Examiner in the Office Action dated September 13, 12007, the declaration under 37 C.F.R. §1.131 with supporting exhibits to show reduction to practice were sufficient to overcome "Moeggenborg (100)" reference, which had a filing date of September 24, 2001. In the same way, Applicants submit that based upon the above cited case law the current declaration under 37 C.F.R. §1.131 and corresponding Exhibits (1-10) are sufficient to establish possession and

reduction to practice of the inventions as claimed in independent claims 77, 94, and 118 prior to the effective filing date of the Wang reference. Additionally, Applicants' declaration with exhibits (11-19) provides supporting evidence for Applicants' exercising of "reasonable diligence" after reduction to practice and filing of the application as discussed in paras. 30-42.

However, Applicants are aware that prior Office Actions have concluded that some of the previous declarations submitted under 37 C.F.R. §1.131 were insufficient. For instance, the Office Action dated **September 9, 2004** asserted that Applicants' June 6, 2004 "Rule 1.131" declaration was insufficient to establish prior invention for the claimed subject matter (broad ranges of abrasives and periodic acid) that did not have support for the entire ranges, and that Applicants had not shown "**diligence**" between the reduction to practice on **12/17/1999** and the filing date of **1/25/02**. In light of the issues raised regarding the previous Rule 1.131 declarations using lab notebook pages, Applicants will address the specific issues: (1) why the reduction to practice of various compositions using 0.1 moles/kg of periodic acid illustrated in the lab-notebook pages is sufficient under 37 C.F.R. §1.131 to antedate the Wang (184) reference; and (2) the circumstances explaining the "reasonable diligence" exercised by the inventors and EKC (the assignee) from the date of reduction to practice *before August 13, 1999, the effective filing date of the Wang reference* to the actual filing date of January 24, 2001.

As discussed above, the Court of Customs and Patent Appeals has held that the Rule 1.131 affidavit or declaration must establish possession of either the whole invention claimed *or something falling within the claims* in the sense that the claim as a whole reads on it. *In re Tanczyn*, 52 C.C.P.A. at 1634 (Emphasis added). In the present Rule 1.131 declaration and in light of Exhibits 1-10 appended thereto, Applicants have, at the very least, shown possession and reduction to practice of the invention as recited in independent claims 77, 94, and 118, based upon, among other features, the use of 0.1 moles/kg of periodic acid, as this concentration of periodic acid clearly falls within the claimed range of from about 0.05 to about 0.3 moles/kg. Therefore, Applicants have established reduction to practice of exemplary embodiments something that fall within the claims in the sense that the claim as a whole reads upon it. Such a showing should be sufficient to antedate Wang (184).

Moreover, the genus-species situation is one in which exemplary embodiments that falls within the claims (or something less than the whole invention as claimed, albeit something that is still within the scope of the claims) can be described in a Rule 1.131 declaration to sufficiently antedate a reference. *In re Stempel*, 44 C.C.P.A. at 826. However, the Court of Customs and Patent Appeals has refused to accept a rule that would limit such situations to only genus-species. *In re Tanczyn*, 52 C.C.P.A. at 1634. Here, Applicants' disclosure of an embodiment of the invention using 0.1 moles/kg of periodic acid, which is within the claimed range of from about 0.05 to about 0.3 moles/kg, is clearly analogous to reduction to practice of a species within a genus, wherein the 0.1 moles/kg may be construed as a species within the claimed range, which may be construed as the genus. Since the Court of Customs and Patent Appeals has clearly indicated that genus-species relationships are not the only situations in which something less than the whole invention can be shown in a Rule 1.131 declaration to antedate a reference, the description of one concentration within a claimed concentration range in a Rule 1.131 declaration is clearly another situation that is sufficient to antedate a given reference, particularly given the close analogy to the genus-species situation.

Further, in the *Stryker* case, a declaration establishing possession of the invention but not the specifically claimed range was sufficient to antedate a reference. *In re Stryker*, 58 C.C.P.A. at 1340. Specifically, the applicant in that case had no corroborating evidence to support the claimed weight percent range of a particular component, which the Examiner deemed obvious over the prior art. *Id.* at 1341. Yet, the Rule 1.131 declaration was deemed to be sufficient based upon what would otherwise be an anomalous result: the reference could be removed if the claims were broader and it cannot be that the same Rule 1.131 declaration would be insufficient to remove the same reference applied against more narrow claims. *Id.* at 1342.

Further still, like the *Stryker* case, in the *Eickmeyer* case, a declaration establishing possession of one specific temperature point was deemed sufficient to antedate a reference that showed various temperature ranges. *In re Eickmeyer*, 602 F. 2d 974; 1979 CCPA LEXIS 224, 202 U.S.P.Q. (BNA) 655, (1979). In that case, the applicant did not have support for the entire temperature ranges reciting "at least 56 °C" during the catalytic process, which the examiner deemed obvious over the prior art. *Id.* However, a rule 1.131 declaration with supporting

evidence of the reduction to practice at this temperature was considered sufficient evidence to support the claimed temperature ranges. *Id.*

In the current application, Applicants claim a noble metal polishing slurry composition comprising, among other features, periodic acid in the range from about 0.05 to about 0.3 moles/kg. The Rule 1.131 declaration with supporting evidence of lab notebook pages establishes at the very least the reduction to practice of all of the claim elements at a periodic acid concentration of 0.1 moles/kg or 0.2 moles/kg, including abrasives in the ranges of 2% to 4% by weight. The situation is almost identical to that of *Stryker*, except for the fact that Applicants here actually have evidence to show reduction to practice of some embodiments within the claimed range, whereas in *Stryker* there was no corroborating evidence for the claimed weight percent range.

Further, the Office Action states that the claimed concentration range of periodic acid is obvious in light of the prior art. Office Action, p. 5. Therefore, the same anomalous result could occur that was warned against in the *Stryker* case. That is, the reference would be eliminated if the claims were broadened by deleting the periodic acid concentration limitation since the declaration would then be sufficient in all respects.¹

Based upon the foregoing, Applicants submit that the Rule 1.131 declaration and Exhibits 1-10, filed herewith sufficiently evidences the reduction to practice of independent claims 77, 94, and 118 prior to the reference date of Wang (184). Therefore, Applicants believe they have properly antedated this reference such that it cannot be used as prior art against the pending claims.

Additionally, Applicants provide on paras. 30-42 of the Small and Chen declaration, the supporting evidence attesting to the “reasonable diligence” from the date of reduction to practice to the time of filing the application. As discussed above in the *Fujikawa* case, disclosure related

¹ Although the Examiner may be able to reject such broader claims based on other prior art, such is not a basis for rejecting a declaration under 37 C.F.R. §1.131 that properly antedates a reference. In the *Stryker* case, the court recognized that had broader claims been presented, earlier prior art may have been found to reject such claims. *In re Stryker*, 58 C.C.P.A. at 1342. However, the court did not indicate or imply in any manner that the availability of such earlier prior art would somehow negate consideration or use of a 1.131 affidavit directed to a portion of the invention to antedate a given reference.

activity and the complexity of the subject matter coupled with the fact that throughout this period between reduction to practice and filing date if the company was moving *slowly but inexorably towards disclosure*, then this case did not warrant an inference of suppression or concealment, implying that there was reasonable diligence towards disclosure. *Fujikawa v. Wattanasin*, 93 F.3d 1559; 39 USPQ2d 1895 (Fed. Cir. 1996). The *Fujikawa* court reiterated that the total conduct of the inventor rather than the elapsed time of delay, is the “controlling factor” in determining the reasonableness. *Id.*

Further, as discussed above in *Rhinevault v. Pfister*, 20 C.C.P.A. 1112; 65 F.2d 161 (1933), the Court of Customs and Patent Appeals held that there is no statutory enactment to the effect that the mere lapse of two years from reduction to practice to application for patent shall constitute a bar to the patent. The Court also held that “[A] mere delay in applying for a patent after actual reduction to practice will [not] necessarily subordinate the first inventor’s rights and ...consideration has always been given to the circumstances excusing the delay.” *Id.* at 1112. Similarly, the Federal Circuit Court in *Paulik v. Rizkalla*, 760 F.2d 1270 (Fed. Cir. 1985) held that a four year delay between actual reduction to practice and filing of a patent application, *i.e.*, a long period of inactivity, need not be a fatal forfeiture of the rights of the first inventor. And, regarding “reasonable diligence” of the attorney, the Federal Circuit has held that “reasonable diligence” is established if attorney worked reasonably hard on the application and “[I]f the attorney has a reasonable backlog of unrelated cases which he takes up in chronological order and carries out expeditiously, that is sufficient”. *Bey v. Kollonitsch*, 806 F. 2d 1024, 231 USPQ 967 (Fed. Cir. 1986); see also, MPEP 2138.06. Finally, the Federal Circuit held that the attorney’s work on related cases must be credited toward reasonable diligence on the instant application because the work on the related cases “contributed substantially to the ultimate preparation of the involved application.” *Id.* at 1030.

In the current application, Applicants’ Rule 1.131 declaration establishes that the inventors, their assignee, EKC, the agent and the attorney assigned to draft the application were at the very least reasonably diligent in preparing and filing the instant application between the time period of actual reduction to practice before August 13, 1999 and the filing date of January 25, 2002. The situation regarding the time period between actual reduction to practice

and the filing date parallel those situations discussed in the *Fujikawa*, *Rhinevault*, *Paulik* and *Bey* cases discussed above. As in *Fujikawa* where Wattanasin engaged in significant steps towards perfecting the invention and preparing an application, the inventors Small and Chen were also involved with perfecting the invention on noble metal polishing. During much of this period after reduction to practice, EKC (assignee) engaged in significant steps towards collecting data, reviewing the results, discussing the results and was moving inexorably towards disclosure of their invention on noble metal polishing using periodic acid. *See*, Declaration at paras. 32-36. From August 1999 to December 1999, the inventors were engaged in conducting further research on polishing alternate noble metals such as platinum and were further refining their work. *See*, Declaration at para. 30. Following the completion of their invention, the inventors discussed their results with other coworkers, managers and third party scientists around March and April of 2000. *Id.* at 31. Realizing the importance of the noble metal polishing, the senior managers decided to accelerate the momentum for filing patent applications for *all* EKC matters involved with CMP that were completed prior to 2000. *Id.* at 31.

Around April 2000, Dr. Small searched for a patent agent to draft patent disclosures and decided upon Dennis Deboo, a patent agent with an electrical engineering background. *Id.* at 33. Similar to the facts in the *Paulik* and *Bey* cases, the patent agent met with Dr. Small several times to collect data and discuss the inventions for six related EKC applications direct to CMP, for which Mr. Deboo was hired to prepare application disclosures. *Id.* at 34. Mr. Deboo was a solo practitioner with an electrical engineering degree and had a “queue” of applications from EKC and the instant application was number 6 in Mr. Deboo’s docket. *See*, Declaration at para. 33. Mr. Deboo also had several other disclosures to prepare from other clients as well. *Id.* at 34. Further, Mr. Deboo started to prepare draft disclosures for the six EKC applications on around April of 2000. He worked diligently in chronological order on each of the six applications and arrived at working on the instant on or about May 2001 after having finished five other CMP applications for EKC that were in “queue” before this instant application. *Id.* at 35. His average turn-around time for each of these six EKC applications was about seven to eight weeks. *Id.* After completing the draft disclosure of the instant application, Ms. Deboo sent the draft to the law firm of Skerven, Morrill, Macpherson, Franklin & Friel for further revision and filing on August 22, 2001. *Id.* at 36. From September, 2001 to January 2002, the law firm of Skerven,

Morrill, Macpherson, Franklin & Friel prepared *at least four* draft applications from the draft disclosure that they received from Mr. Deboo, consulted the inventors on a number of occasions to discuss the complex subject matter, and finalized the draft claims. The final “ready to file” version of the draft application was prepared in January and filed on January 25, 2002.

In summary, based upon the foregoing, Applicants submit that the Rule 1.131 declaration and Exhibits 1-20, filed herewith, sufficiently evidences not only the reduction to practice of independent claims 77, 94, and 118 prior to the reference date of Wang (184), but also the reasonable diligence of the inventors, EKC (assignee), and the two different agents involved in preparing and filing the application after the reduction to practice. More specifically, the Exhibits 1-10 show that the Applicants reduced to practice their invention of independent claims 77, 94, and 118 *prior to August 13, 1999, the effective date of the Wang (184) reference*. Additionally, Exhibits 11-20 show that the Applicants were diligent in preparing and filing their application after reduction to practice.

From August 1999 to December 1999, the inventors were engaged in refining and testing their noble metal polishing slurry with other noble metals such as platinum. From January 2000 to March 2000, the inventors discussed their work internally as well as with third party scientists. Realizing the importance of the CMP results, the senior managers at EKC in April of 2000 decided to accelerate filing all EKC applications directed to chemical mechanical polishing (CMP) projects completed at EKC prior to December 1999. To accomplish EKC’s objective, Bob Small, the research director at EKC, searched for a patent agent in April 2000 and selected a patent agent in close proximity to his company. The patent agent began working in a linear fashion on all EKC applications directed to CMP as early as April 2000. The patent agent was also preparing disclosure on several other inventions for at least two other clients. The subject application was number 6 in the “queue” of applications from EKC. The agent started drafting the disclosure of this subject invention in May 2001 and completed the disclosure on July 24, 2001. On August 22, 2001 the disclosure was sent to a law firm for further preparation. From September 1, 2001 to January 25, 2002, the law firm prepared *at least four* draft applications on the instant application in view of the complex subject matter. This law firm also engaged in

considerable activity in collecting data from the inventors and finalizing the draft application. The subject application was filed on January 25, 2002.

Thus, it is apparent that between the actual reduction to practice and the filing date of this application the inventors, the senior managers at EKC, and the two different agents were actively engaged in discussing their results and moving forward inexorably towards filing the instant application. In other words, the evidence points to and supports the fact that the Applicants were reasonably diligent to get their invention into the public. Therefore, Applicants believe they have properly antedated Wang (184) reference such that it cannot be used as prior art against the pending claims. Accordingly, Applicants request withdrawal of this 103 rejection.

I. Rejection of Claims 110 and 131 Under 35 U.S.C. §103(a)

Claims 110 and 131 have been rejected as obvious over Wang either alone or in view of Akahori (208) as applied to claims 94 and 118 above and further in view of Beitel (208). Applicants traverse this rejection.

As discussed above, Applicants' declaration under 37 C.F.R. §1.131 sufficiently antedates Wang (184), thereby removing it as a prior art reference. Neither Akahori nor Beitel can render claims 110 and 131 obvious. On this basis alone, Applicants request withdrawal of this rejection.

J. Rejection of Claim 137 Under 35 U.S.C. §103(a)

Claim 137 has been rejected as obvious over Wang (184) alone or in view of Akahori (434) as applied to claim 118 above and further in view of Lack et al. (264). Applicants traverse this rejection.

As discussed above, Applicants' declaration under 37 C.F.R. §1.131 sufficiently antedates Wang (184), thereby removing it as a prior art reference. Neither Akahori nor Lack can render claims 137 obvious. On this basis alone, Applicants request withdrawal of this rejection.

K. New Claims 141-143

New Claims 141-143 have been added by this amendment. The new dependent claims 141-143 correspond to the elements of the previously cancelled claims 119-129 of the previously filed response on June 28, 2007. As discussed above, Applicants' declaration under 37 C.F.R. §1.131

sufficiently antedates Wang (184), thereby removing it as a prior art reference. Additionally Wang, Akahori, Lack or Beitel do not render obvious the subject matter of these dependent claims 141-143. On this basis alone, Applicants request withdrawal of this rejection.

L. Request for Allowance


In view of the foregoing, all claims are now thought to be in condition for allowance, an indication of which is solicited. In the event that any issues remain outstanding, Applicants would appreciate the courtesy of a telephone call to the undersigned counsel to resolve such issues in an expeditious manner so as to place this application in condition for allowance.

No extension fees are deemed necessary for this response. However, if any additional fees are determined to be due, the Commissioner is hereby authorized to charge these fees to the Morgan, Lewis & Bockius Deposit Account no. 50-0310.

Respectfully submitted,

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Date: June 5, 2008

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